Now that we're selling computers to the federal government, people are talking about us.

"Who'd go with them?"

People like you.

We're in the Army now.

Not to mention every other branch of the armed forces. And many government agencies.

Everywhere you look, more and more people are discovering Apple® Macintosh® computers. And working faster, smarter, and better because of it.

Take, for example, the National Aeronautics and Space Administration. NASA's Office of Aeronautics and Space Technology has Macintosh computers networked— via Ethernet—with Digital Equipment Corporation VAX™ computers to help its staff produce briefings and public education materials that are light years ahead of anything they've been able to produce before.

The lawyers and secretaries in the Contract Law Division of the Commerce Department's Office of Finance and Litigation found they could be more productive on a network of Macintosh computers. After careful investigation, of course.

And when the Air Force needs to get projects off the ground with as little wait—and weight—as possible, they turn to Macintosh. In one recent project, the staff used Macintosh to reduce a 900-page document to about 100 pages using a two-column typesetting approach. With a total distribution of nearly 9,000 copies, that means they were able to reduce the total number of printed pages by more than 2.5 million. The dollar savings are equally impressive.

Macintosh computers were also brought in by the Department of Energy, whose staff used them to translate Wang and IBM text files and publish a 350-page energy security document. Macintosh made the final document more legible, readable, and attention-getting.

The point is that if all these people can do so much more work so much better with a Macintosh, you can too.

Allow us a moment of your time, and we'll show you how.

"It's not really very powerful."
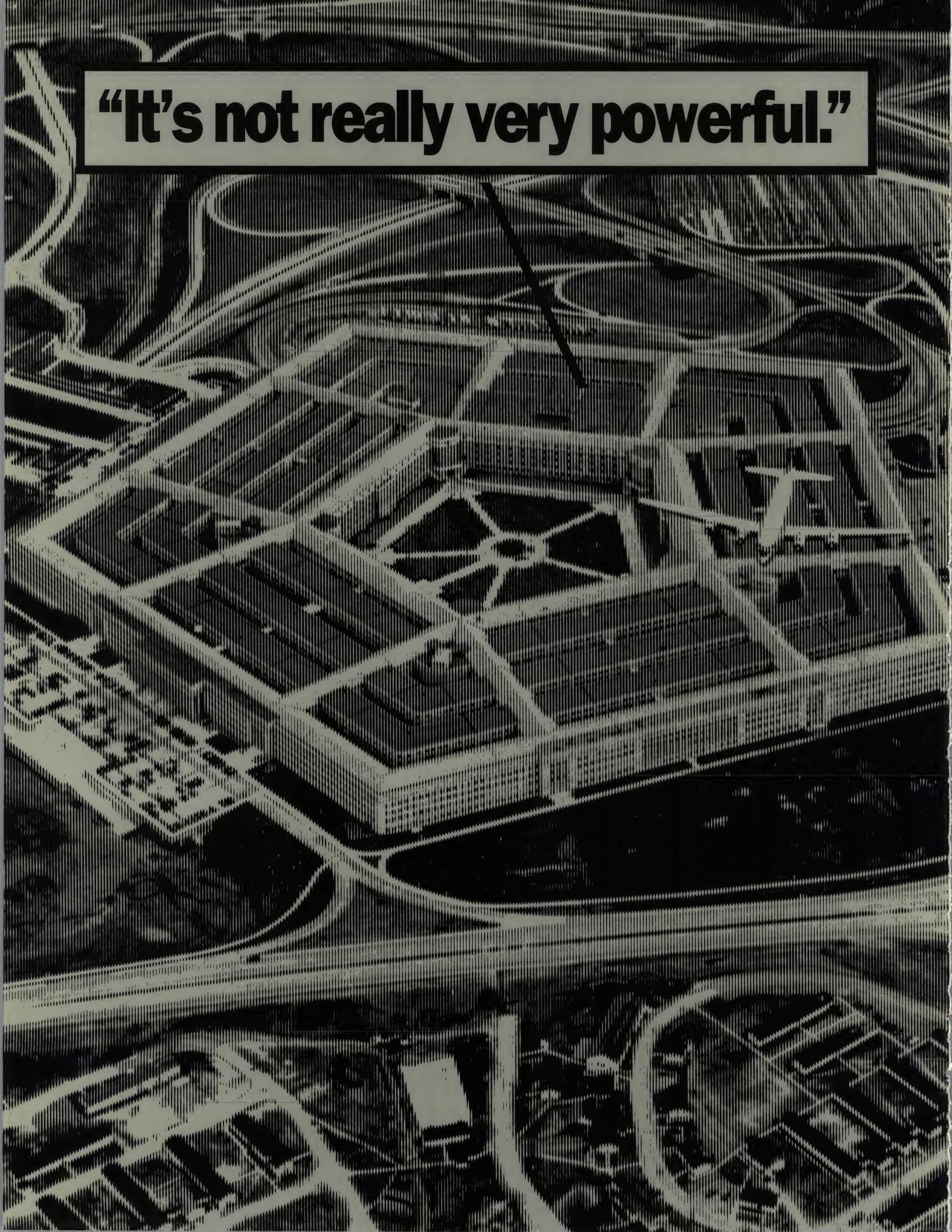
Really?

Some people think that because the Macintosh is so easy to learn and use, it must not be very powerful.

That because it uses a mouse and icons instead of incomprehensible code, it must not be very sophisticated. Or that because it comes from a company with a name like Apple, it can't possibly be taken seriously.

These same people think that if a stack of manuals is required reading just to perform a few simple tasks on another computer, it must be more serious, more sophisticated, more powerful.

That kind of thinking just doesn't make sense any longer.

You see, a computer is simply a tool. The easier and simpler it is to use, the more useful it will be. And when you look at it that way, Macintosh is the most powerful computer you can buy.

1.4-megabyte Apple FDHD™ Internal Drive also reads and converts MS-DOS files

Options include 20-, 40-, or 80-megabyte internal SCSI hard disk drives

Apple Extended Keyboard, with 15 function keys for working with alternate operating systems

4 megabytes of RAM are standard; expandable to 8 megabytes

256K of ROM mounted on a SIMM (Single In-line Memory Module) for easy configuration and service
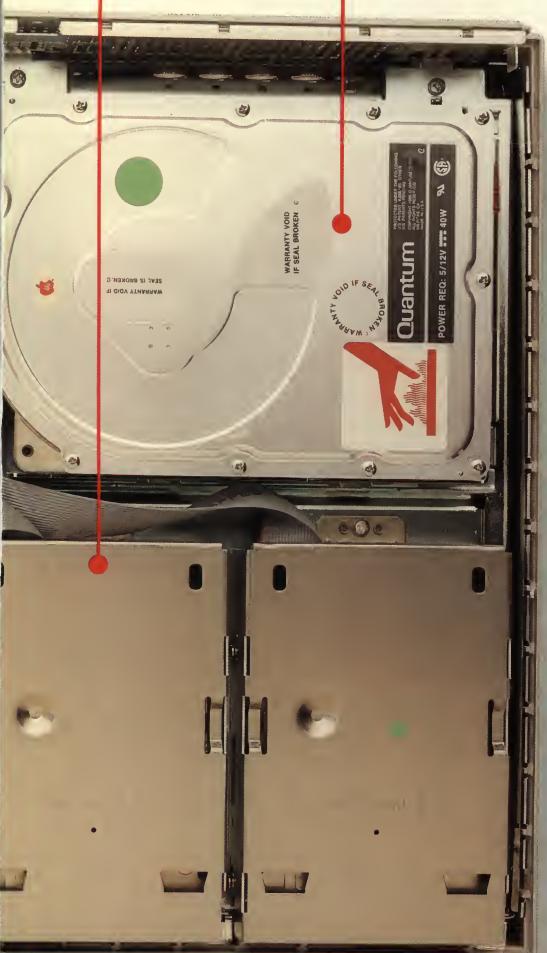
Full 32-bit, 16-megahertz 68030 microprocessor for exceptional performance and compatibility with the entire 68000 family of microprocessors

Apple custom digital sound chip provides 8-bit stereo sampling up to 44 kilohertz and includes four-voice wave-table synthesis

Six built-in ports: two serial, two Apple Desktop Bus™, one SCSI, one sound

Six NuBus expansion slots to expand your options (The AppleColor™ High-Resolution Color Monitor card or the Apple High-Resolution Monochrome Monitor card goes here)

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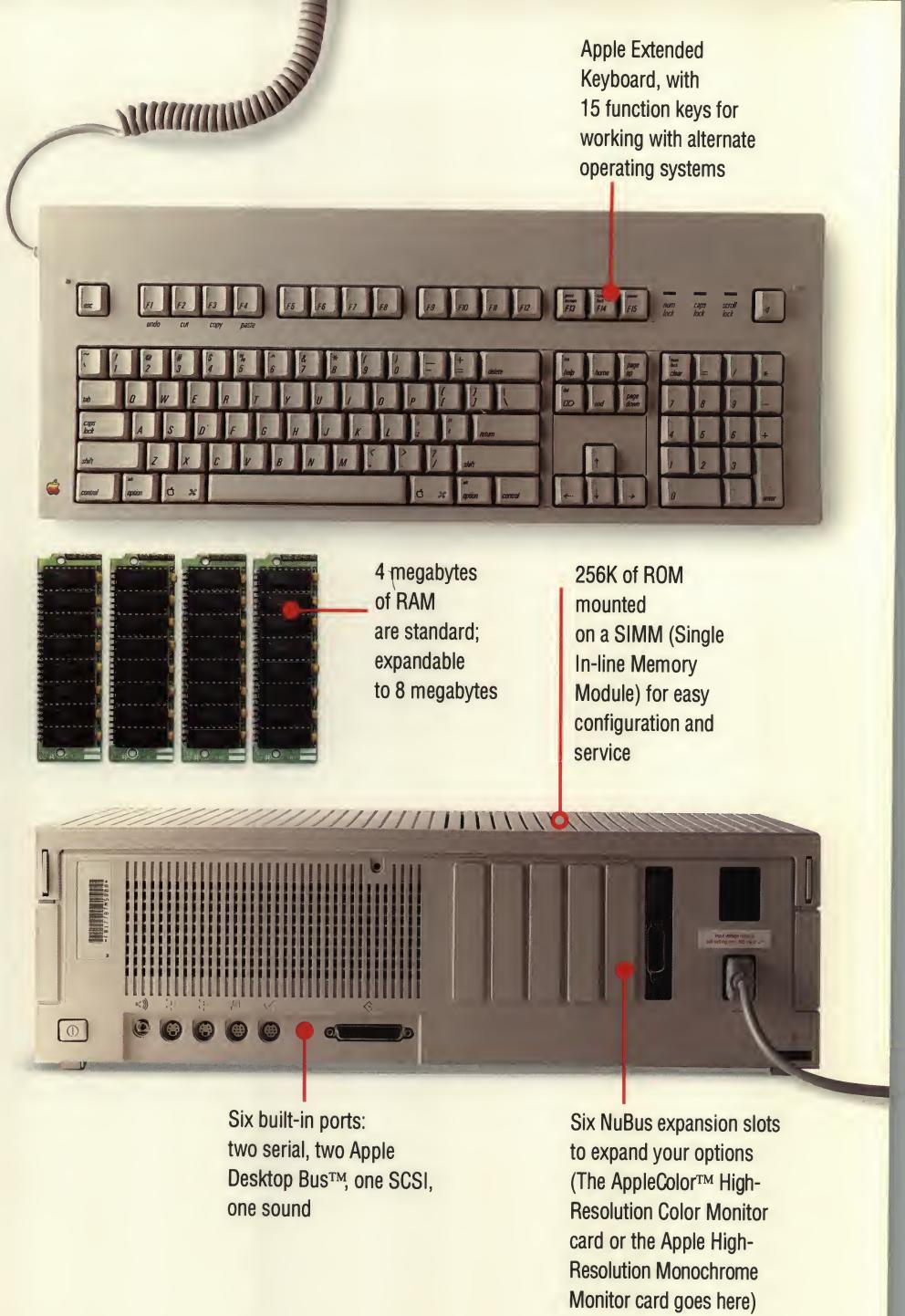
machines that begin to imitate the point-and-click simplicity of Macintosh, they're also finding out that making a computer work like a Macintosh takes more than a mouse, menus, and icons.

Macintosh is more than a computer. It's a total system. A system built, from the very first chip, around a profound understanding of human nature, and a healthy dose of common sense—both of which are difficult to reverse engineer.

It's a system that's dynamic, with the continual addition of more powerful Macintosh computers, printers, and peripherals.

A system that's extending its innovative features to other computers, regardless of their size or operating system. Because the Macintosh connects to nearly all of them.

And in a way that lets you use their vast resources with the same simplicity that made the Macintosh famous.

Isn't that the kind of power you really need?

An industry-standard
IEEE backplane

MultiFinder™ operating
system for juggling
multiple applications

NuBus™ architecture
with full 32-bit single
address and data bus,
for a total addressable
space of 4 gigabytes
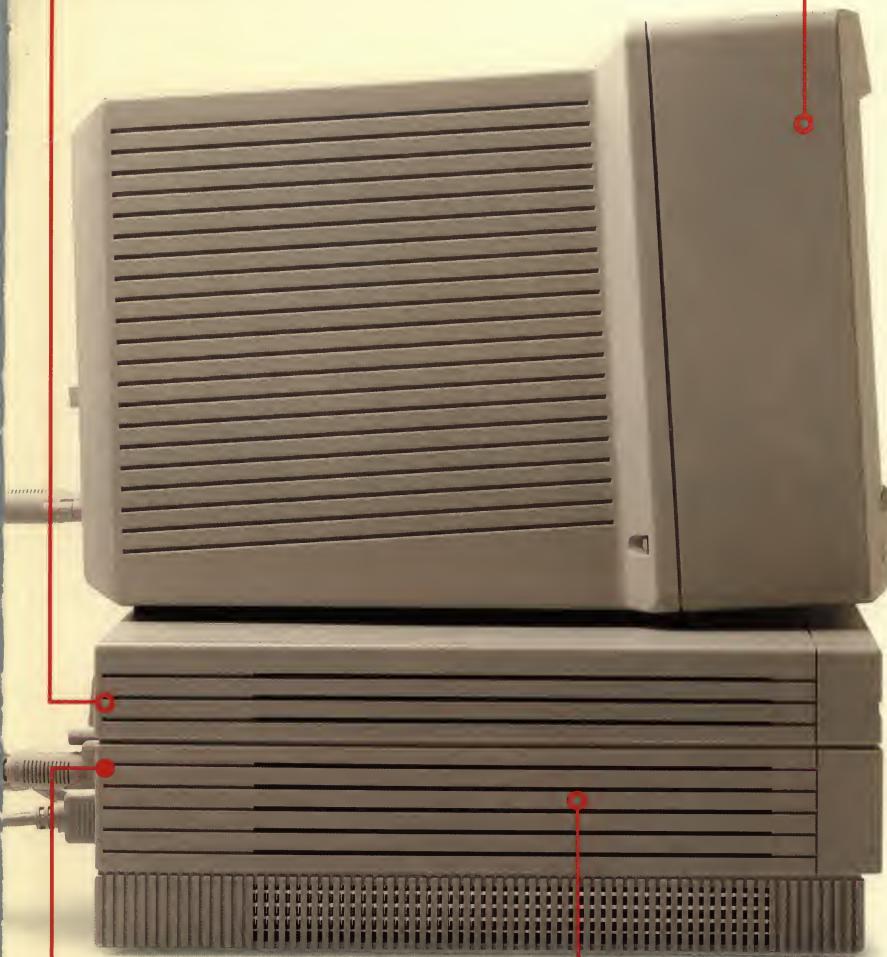
High-speed SCSI bus
for connecting a variety of
high-performance
I/O devices

Built-in Paged
Memory Management
Unit (PMMU) that
allows you to run
multitasking operating
systems such as
A/UX®
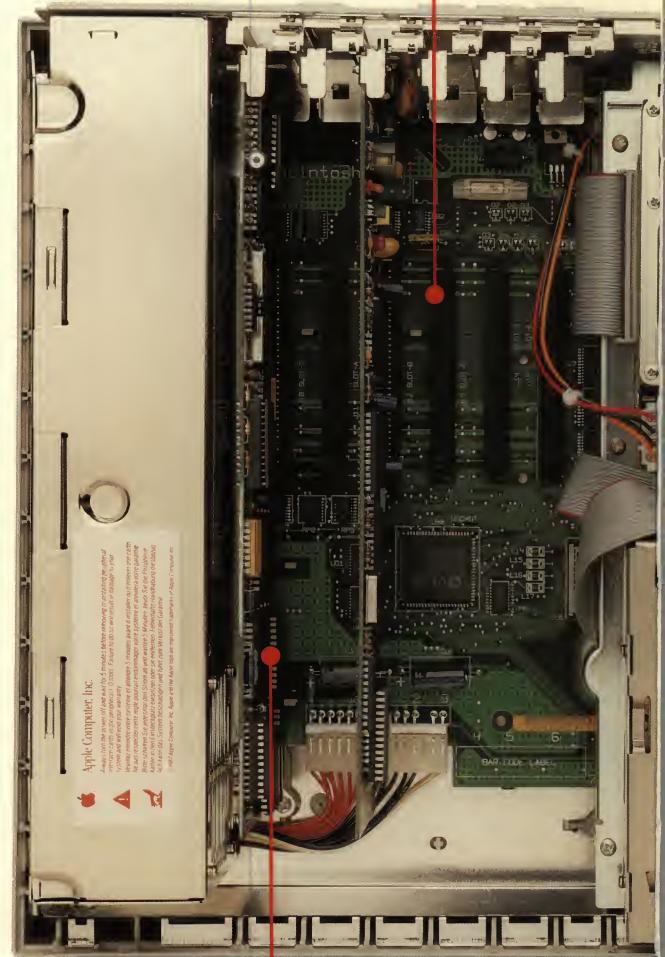
Self-configuring
expansion cards

68882 floating-point
math coprocessor to
speed even the most
complex mathematical
problems

What makes a Macintosh a Macintosh?

It's a machine that goes through columns of logarithmic and trigonometric calculations like Grant went through Richmond.

A machine that can, with equal facility, keep the books or print one.

It can take an idea and give it form, weight, texture—even movement. Or it can produce an image of the brain that created the idea.

In fact, people at the National Institutes of Health are doing just that. Thanks to the superior graphics capabilities of the Macintosh, doctors at the NIH are enhancing brain scans and other body images to provide a more detailed look at the interior human landscape than was ever before possible. This information, in turn, is being used to enhance treatment, aid diagnoses, and speed research.

Not bad for a computer that uses a simple pointing device, plain English, and pictures of everyday objects.

And while some computer makers are promising

"It doesn't work with what we've got."

What do you have?

Nowhere is there a more diverse array of computers than in the federal government.

And nowhere is there a greater need to connect those computers.
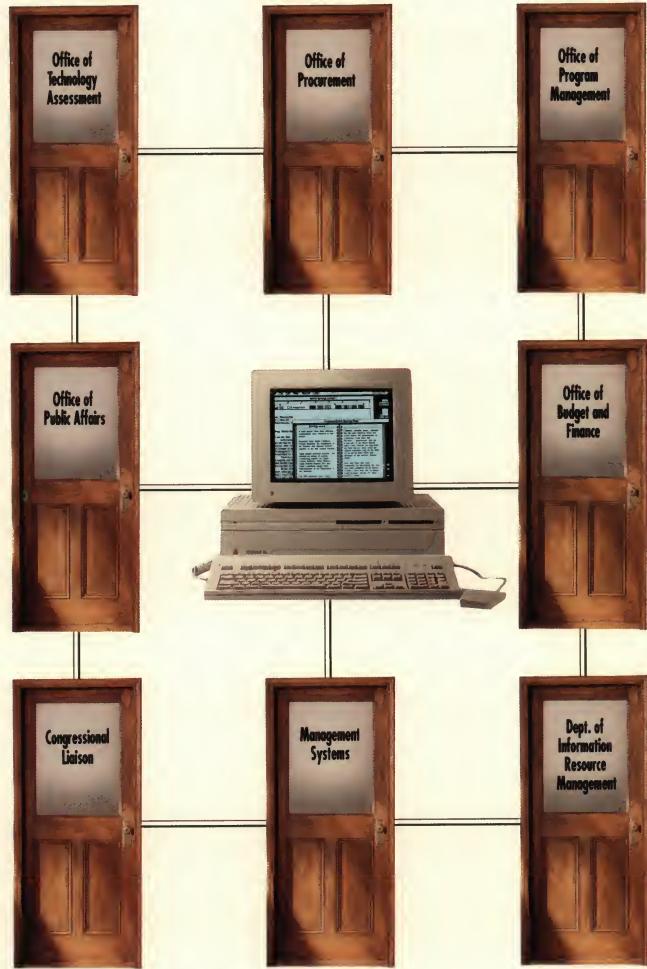
The most valuable computer for government, then, is the one that connects to most other types of computers.

Macintosh is that computer.

Connectivity, however, isn't the end. It's the beginning. Our goal is interoperability—end users easily managing information, using applications across a network, and sharing data, regardless of where it resides.

To that end, the more communications standards, networking options, and multivendor environments we support, the better.

Because in that way, we open up all kinds of possibilities.

by Wang, Digital Equipment Corporation, and IBM.

Interoperability takes place on different levels, too.

At the most basic level, Macintosh performs terminal emulation without complaint. Even though it's hopelessly overqualified for the job.

The next level, file transfer, uses more of the unique capabilities of the Macintosh.

For an example of how well file transfer works on the Macintosh, remember the Air Force document we mentioned earlier? Well, updating it worldwide used to take 30 days. With Macintosh computers on-line, it takes one.

You see, the Air Force's base contracting is done on a Wang VS network. So now the document is simply updated on the Macintosh computers in Washington and downloaded to each base's Wang computer simultaneously.

Of course, Macintosh really shines in peer-to-peer applications, in which applications reside on both the Macintosh and a mainframe, and the Macintosh acts as the front end. For example, by running

MacAPPC applications, the Macintosh can access distributed IBM databases transparently—and combine that data with information from local databases maintained on the Macintosh.

And finally, there's MacWorkStation™ which gives programmers the ability to create interfaces for mainframe programs that—when running on a Macintosh—can use icons, pull-down menus, and other Macintosh interface characteristics.

The government has its standards. Here's one of ours.

The AppleTalk Network System.

It's built into every Macintosh computer and peripheral.

An AppleTalk network is simple to install because it's self-configuring and runs over a wide variety of cabling, including twisted-pair, Ethernet, and fiber-optic cables.

AppleTalk also supports many different types of computers and peripherals.

This shouldn't come as a surprise, considering that companies such as 3Com, Novell, Digital, and others are supporting and implementing AppleTalk.

All of which makes AppleTalk extremely versatile.

You can use it to share printers and support electronic mail, or even expand it to accommodate file servers and internetworking. Because with the addition of third-party bridges and gateways, AppleTalk will even handle the demands of operating in high-traffic, multivendor, multitasking environments.

So, regardless of what kind of connections you need to make, we can help you make the right ones.

How Macintosh is becoming standard government issue.

By adopting and implementing government standards, of course.

For example, A/UX, our version of AT&T's UNIX® operating system, offers all the capabilities of System V, Release 2.2 with BSD 4.2 extensions. And we've enhanced this solid performance by bringing many of the advanced features of the Macintosh to UNIX. The result is industry-standard functionality—with simplified administration and improved reliability.

We've even extended A/UX to comply with the POSIX FIPS. And we'll track revisions to the standard as they appear.

There's also MacTCP™ our software implementation of the Transmission Control Protocol/Internet Protocol (TCP/IP).

And in the arena of trusted systems, we're committed to implementing a trusted operating system on our existing hardware platform, consistent with the specifications developed by the National Computer Security Act of 1987.

Which means that, regardless of your configuration requirements, we're open to what you need.

Industry standards—groundwork for a common ground.

We're also extending our reach by supporting the major networking environment standards, including the Open Systems Interconnection (OSI), IBM's Systems Network Architecture (SNA), and the Digital Network Architecture (DNA).
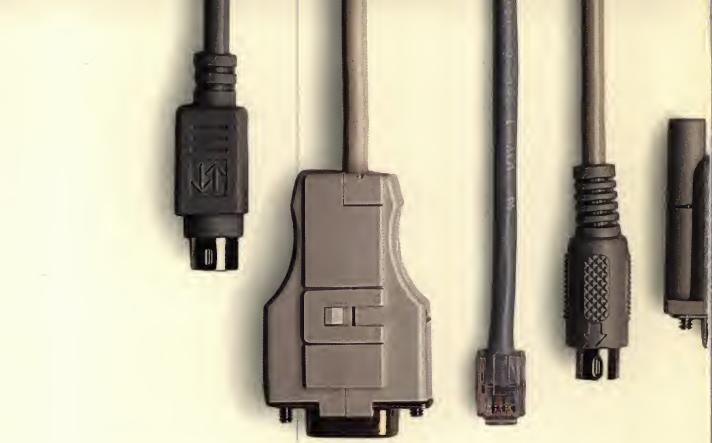
The AppleTalk network's diverse cabling possibilities, from the simplest to the PhoneNET, a cabling system that uses standard telephone wire; LAN Ethernet, a high-speed/high-capacity network cabling system; and Du

And, where possible, we create our own implementations.

Like MacAPPC™ our implementation of IBM's Logical Unit 6.2 and Physical Unit 2.1 protocols.

We can also integrate MS-DOS computers and Macintosh computers seamlessly via links to major networks such as Ethernet and Novell's NetWare.

Then, too, we're constantly looking for—and finding—companies and products that will enhance our networking capabilities.

Like Touch Communications, developers of OSI products for the Macintosh. Another is Network Innovations, developer of the CL/1™ SQL database.

And, of course, there's our strategic alliance with Digital Equipment Corporation, to promote true interoperability between Macintosh and VAX systems over AppleTalk® and DECnet™/OSI enterprisewide networks.

For host connectivity, a host of options.

In fact, the Macintosh also gets along with various minicomputers and mainframes, including those made
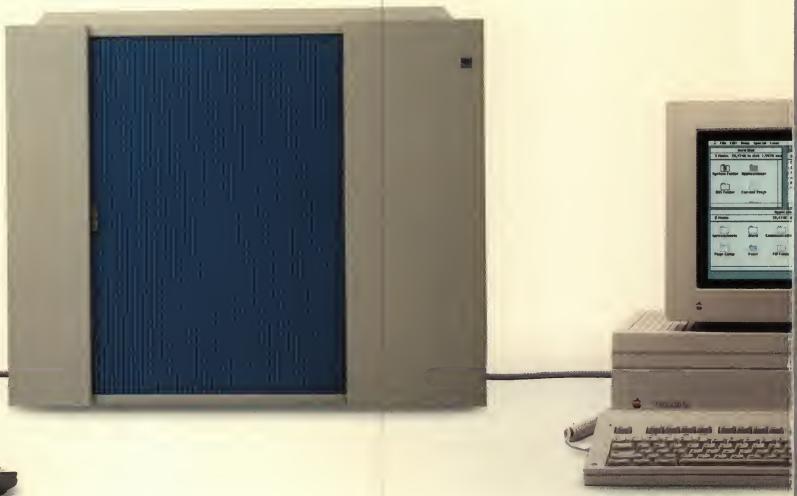
"It's not much better."
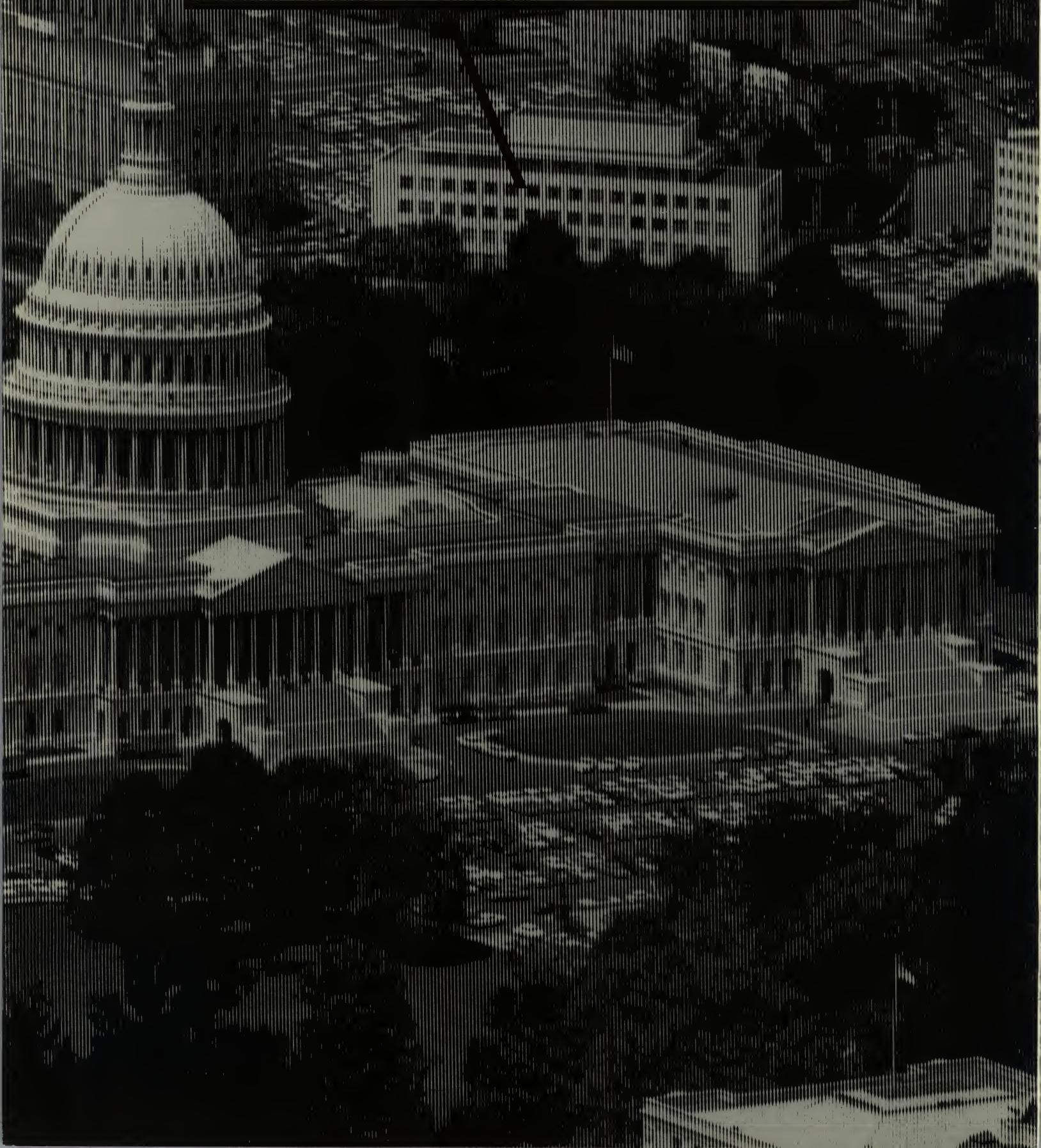
Right. It's a lot better.

How much a computer costs can't always be measured by the price tag.

Consider, for example, the two computers compared here.

Macintosh: Half the Training Time
Average Training Hours per User

20
15
10
5

MS-DOS   Macintosh

Source: Diagnostic Research Inc. 1988 Study of Fortune 1000 MIS Managers.

Macintosh: Half the Support Time
Average Support Hours per Month per Computer

30
25
20
15
10
5

MS-DOS   Macintosh

Source: Diagnostic Research Inc. 1988 Study of Fortune 1000 MIS Managers.
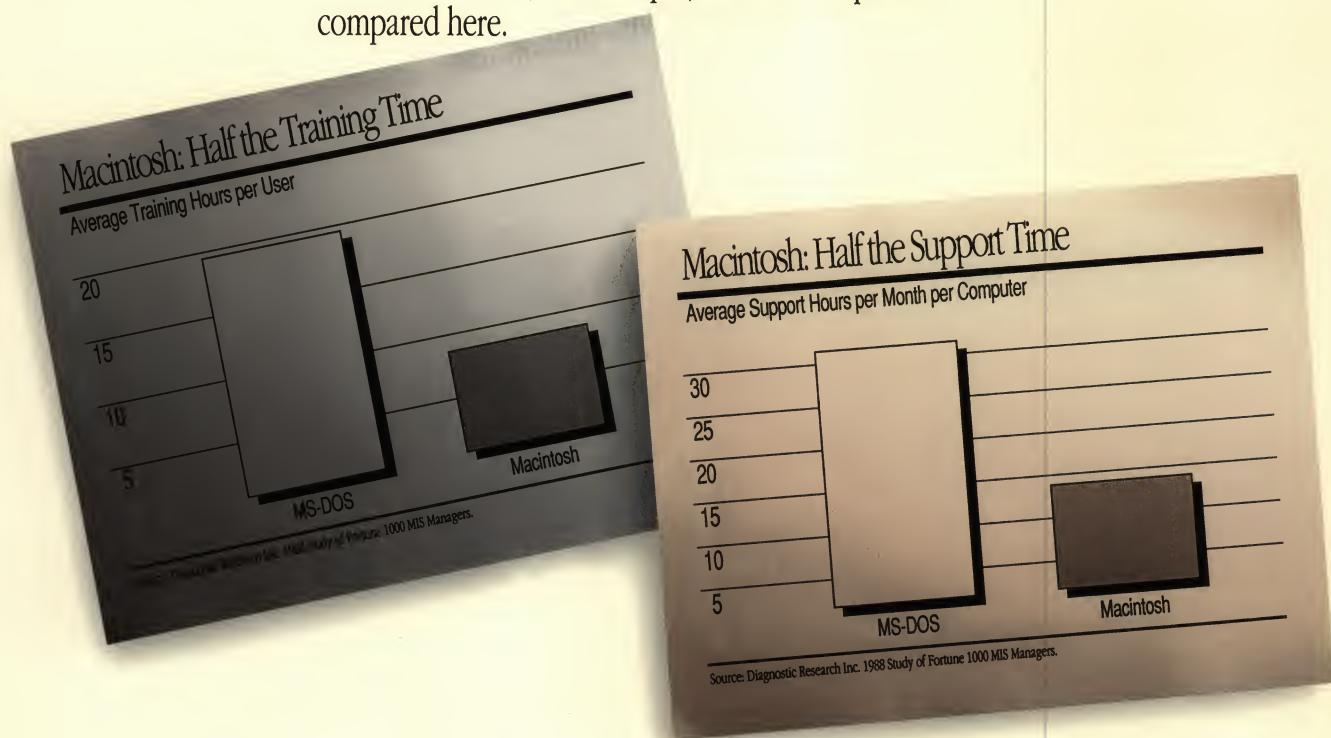
This comparison refers to a recent survey by Diagnostic Research, Inc., in which MIS managers from Fortune 1000 companies were asked to compare the costs of using Macintosh computers with those of using MS-DOS machines.

Although the results speak for themselves, we can't help but add a few words of our own: Training time, training costs, and support costs were all lower with Macintosh. Not just a little lower, either. A lot lower.

The Gartner Group released a study with similar findings. The study reported that, "Over a five-year life cycle, and assuming a static set of applications, the cost of the Macintosh is some 28 percent lower than that of the IBM PC…and the lower training time needed on the Macintosh yields even greater cost savings as users add applications."

Which proves that, in the long run, buying something other than a Macintosh could really cost you.

Shuttle Data

	B	C	D	E	F
	Apr 12, 1981	36 Orbits	2:d 3:h	933, nm	alt 172n
	Nov 12, 1981	36 Orbits	2:d 3:h	933, nm	alt 140n
	Mar 22, 1983	130 orbits	8:d	3.9 mil nm	alt 130n
	Jun 27, 1983	112 Orbits	7:d 2:h	2.9 mil nm	alt 162n
	Nov 16, 1982	81 Orbits	5:d 2:h	1.5 mil nm	alt 160n
	Apr 4, 1981	80 Orbits	5:d	1.8 mil nm	alt 150n
	Jun 18, 1983	97 Orbits	6:d 2:h	2.2 mil nm	alt 160n

Future Missions :Lou's Shuttle

Commander:	Daniel C. Brandenstein
Pilot:	John O. Creighton
Mission Spec:	Shannon W. Lucid
	John M. Fabian
Payload Spec:	Sultan Al-Saud (ARABSAT
	Patrick Baudry (France)

Major Payloads:

SPARTAN-1
    X-ray astronomy, medium energy survey
mission.

MORELOS-A
    Mexican communications satellite system

If you can find the trash can, you can use a Macintosh.

The mouse was a revolutionary input device when it was introduced. And like so many Macintosh innovations, it has become standard equipment for many other computers.

Edit

Undo	⌘Z
Cut	⌘X
Copy	⌘C
Paste	⌘V

...g computer code, Macintosh behaves like a human being. By working in ways ...t other computer makers are just now, five years later, realizing the merits of.

Once you learn how to run one Macintosh application, you'll know how to run many others; they all work in basically the same way.

sound, animation, even video—and present that information in any order, as it was asked for, to a very impressed audience.

HyperCard is a powerful, sophisticated application, but because it works with the same point-and-click simplicity as other Macintosh applications, it was easy for the staff to understand and learn.

This consistency among applications—in every-

thing from word processing to spreadsheets to graphics programs—pays off every time somebody opens a new Macintosh application. Enabling the kind of productivity gains you can leverage to reach your program goals.

And when you look at it that way, investing in Macintosh doesn't cost.

It pays.

It's really quite simple.

People can get more work done in the hours they spend with a Macintosh than they can in the same number of hours spent with an MS-DOS computer.

And they'll enjoy it more.

That's because of the idea behind Macintosh— that a computer should accommodate the way people work, not the other way around.

The Macintosh family of computers comprises a wide range of systems—everything from entry-level to very high-performance systems—including the expandable, high-performance Macintosh IIx and Macintosh II (both with color graphics capability), and the Macintosh SE/30, with an internal expansion slot and internal hard disk drive.

Consider this. To print a document with an MS-DOS computer, you have to memorize a command string. But why should you have to remember something the computer already knows?

To print a document on a Macintosh, you pull down a menu bar, point to "Print," and release the mouse button.

It's that simple. Because it doesn't need to be any more complicated.

Macintosh also uses icons—on-screen pictures of familiar objects that make working with the system simple and intuitive.

And when you get your printed copy, there are no surprises. Because one of the many innovations of Macintosh is its ability to display text and graphics together on the screen and print them exactly as they appear.

It's called "what you see is what you get," or WYSIWYG for short.

But perhaps one of the biggest reasons people can become so proficient with Macintosh in such a relatively short time is because all Macintosh software
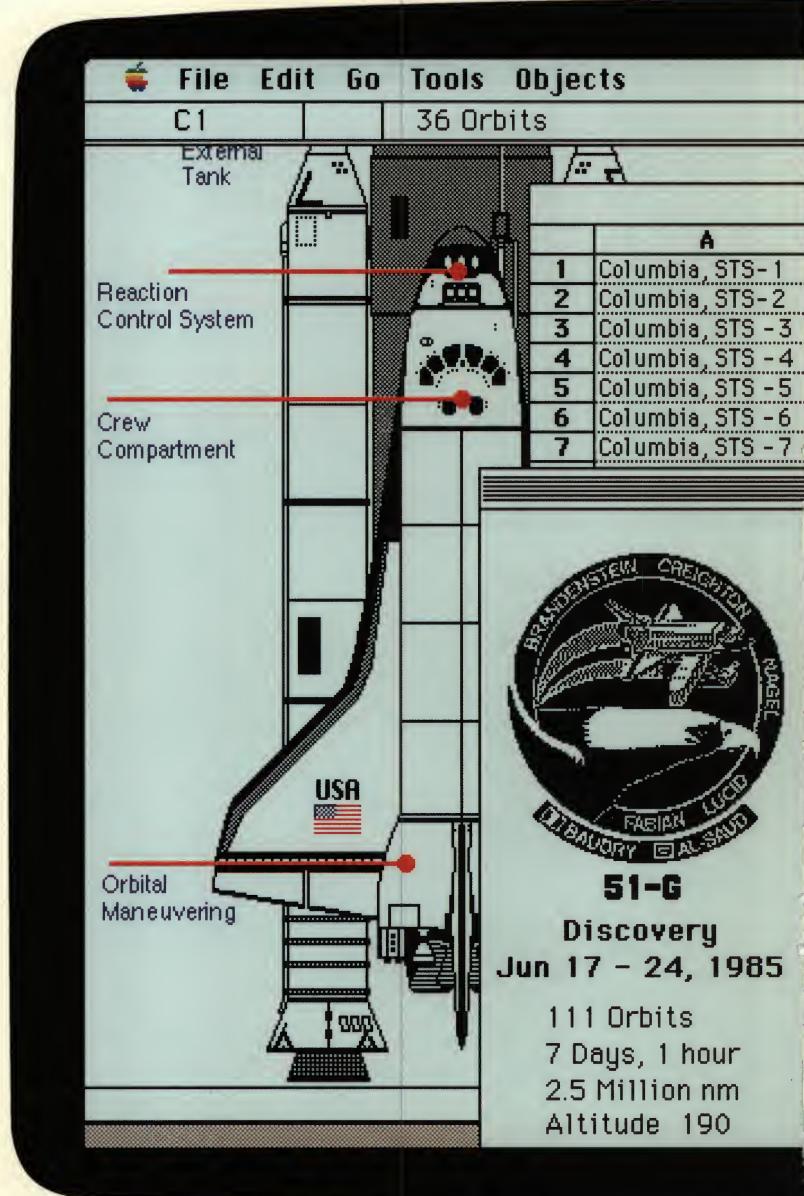
It's easy to see why people are more productive on a Macintosh. Instead of displayi a human being can understand. With words, pictures, and a window environme

operates in basically the same way. So once you've learned one application, you're well on your way to learning them all.

Which brings us to another example.

The staff of the Secretary of the Department of the Interior was faced with preparing the annual budget presentation. Instead of the usual slide show, they chose to do the entire presentation with HyperCard®.

HyperCard allowed the staff to create, link, and control information in different forms—text, graphics,

"You can't do much with it."

Not until
you turn it on.

Once you turn it on, you'll see that no other computer
can touch what a Macintosh can do.
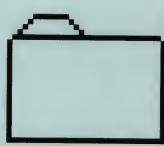
SoftPC **HyperCard** **A/UX**

Not just because of its now-famous ease of use or
consistency of applications, but because no other com-
puter is as capable in as many different environments.

You see, some computers run MS-DOS; some run
UNIX. A few run both.

But, with the right hardware and software, only
one can run MS-DOS, UNIX, and the Macintosh
operating system.

That computer, naturally enough, is a Macintosh.

UNIX with features that include pull-down menus, mouse-selected commands, dialog boxes, scroll bars, and multiple fonts. In fact, many current Macintosh applications will run unchanged under A/UX.

We've also included both UNIX standards.

A/UX is based on AT&T's UNIX System V, Release 2.2 with BSD 4.2 extensions. A/UX also includes features that are either optional or simply unavailable on other UNIX versions. Features such as AT&T Documenter's Workbench for text output, built-in programming languages, automatic system driver installation, and automatic repair of system files in the event of a system error. There's even an A/UX Hotline subscription service to ensure fast answers to your questions.

UNIX has always been powerful. Now, A/UX gives it Macintosh functionality.

And that is truly the best of both worlds.

MS-DOS on Macintosh.

With Macintosh, there are a lot of ways for you to work with MS-DOS data and applications. So you'll be able to protect your investment *and* get the benefits of Macintosh at the same time.

But while there's no need to toss out your MS-DOS machines, you may be tempted to do just that when you see what MS-DOS data looks like on a Macintosh.

Because with the right software and peripherals, not only can you take virtually any MS-DOS application and run it—unaltered—on a Macintosh, you can also translate your data into a form readable by Macintosh applications.

In that form, you'll have something no MS-DOS system can provide—the powerful graphics capabilities and the intuitive interface of the Macintosh.

With the right software and hardware, a Macintosh SE, II, or IIx can not only run MS-DOS applications unaltered, but it can also give your MS-DOS data the Macintosh look and feel. Which proves that while Macintosh may be compatible, it's still incomparable.

h introduced have become industry standards
mputing—for the better. With a computer that
er people can get more done.

Macintosh on Macintosh.

From the beginning, we've thought that the Macintosh represented a better way to build a computer.

Apparently, a lot of people have agreed with us. Enough to make the Macintosh an industry standard.

And regardless of what innovations our developers or third-party vendors come up with, those changes will be integrated seamlessly into the Macintosh architecture.

Because the Macintosh is more than just "point and click."

It's a sophisticated computer architecture.

There's software and self-configuring hardware that form totally integrated systems, which have the ability to produce a rich multimedia output of pictures, sound, and typeset-quality text.

It's a collection of high-level tools for Macintosh applications developers. And tools, like HyperCard, that can be used by anyone who's ever wanted to program a computer but thought programming was too complicated.

It's the Macintosh desktop, which unifies the user's view of the system.

It's an operating system that provides consistency across hardware platforms, and that includes MultiFinder™, Apple's multitasking operating system.

It's this architecture that makes the Macintosh system what it is. So powerful and yet so easy to use. And so different from a computer that merely tries to *look* like a Macintosh.

UNIX on Macintosh II.

A/UX, Apple's implementation of UNIX, is just what you'd expect from Apple. We've enhanced standard

With A/UX and the Macintosh II, UNIX finally has a platform with some personality. That means people who need UNIX can get it with all the trimmings. Plus something else they've always wanted—all the Macintosh productivity software.

*The human interface innovations Macintos
and have changed the face of personal com
looks like this, it's no wona*

Enough said.

You've had the opportunity to see the improvements in personal productivity and effectiveness that the Macintosh can bring to people like you in the federal government.

And to appreciate the Macintosh design philosophy, which is that the most important part of a computer is the people who will be using it.

You've also seen how well Macintosh can connect with the wide range of computer systems in use today in federal agencies. And how the lower training time associated with Macintosh translates directly into productivity improvements.

If you'd like to find out more about Macintosh and the other products mentioned in this brochure, we invite you to call the Apple Federal Systems Group office

Federal Systems Group

Apple Computer, Inc.
1892 Preston White Drive
Reston, Virginia 22091
703 264-5100

in the Washington, D.C. area at (703) 264-5100. They'll put you in touch with the Apple Federal Representative for your agency.

We welcome the opportunity to talk with you about Macintosh.

Just say the word.